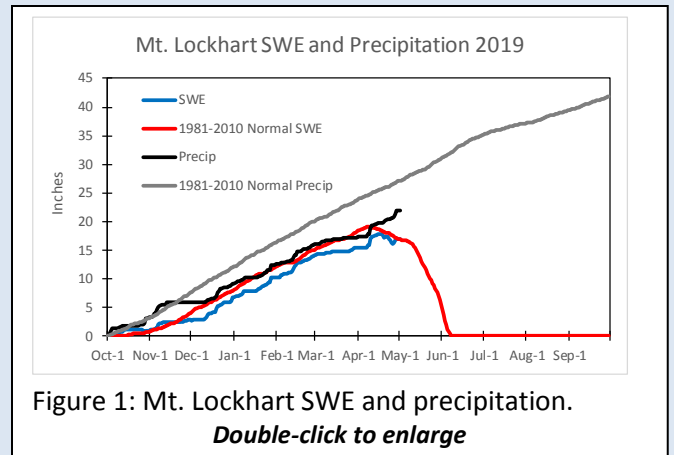# Teton River
Runoff Forecast
May 1, 2019

Snowpack Conditions

– Snowpack conditions (Snow Water Equivalent or SWE) at the Natural Resource Conservation Service (NRCS) Mt. Lockhart and Waldron SNOTEL sites are **above normal at 101% & 185% of the median** (Figure 1) . "Above normal" numbers are slightly misleading because: 1) a peak snowpack deficit (1.6 inches of SWE) continues to exist at higher elevations like Mt. Lockhart 2) cold weather delayed the normal start snowmelt (April,10), this delay has turned below normal conditions into above normal. The good news is, it has prolonged the availability of water supplies later into the irrigation season.


Figure 1: Mt. Lockhart SWE and precipitation.
Double-click to enlarge

Stream Flow Conditions

– The United States Geological Survey (USGS) gage 06102500 Teton River Below South Fork Choteau (TRSF) started showing signs of runoff on April 19 as low elevation snowpack (below 5,600 ft) started to slowly melt out.

Runoff Forecast

– On a normal year 46,000 acre-feet of water flow by the TRSF gage from April 1-July 31. The DNRC May 1 runoff forecast, predicts a **below normal volume of 40,400 acre-feet** (Figure 2). Current information indicates that runoff this year is predicted to be similar to conditions observed in 2015. The **error associated with the May forecast is +/- 12,300 acre-feet**, meaning the prediction could vary from dry to above normal conditions (Figure 2). The error has improved compared to the April error (16,300 AF), because the mountains are past the "typical" peak snowpack.

Figure 2: Historical flows and the 2019 prediction.
Double-click to enlarge
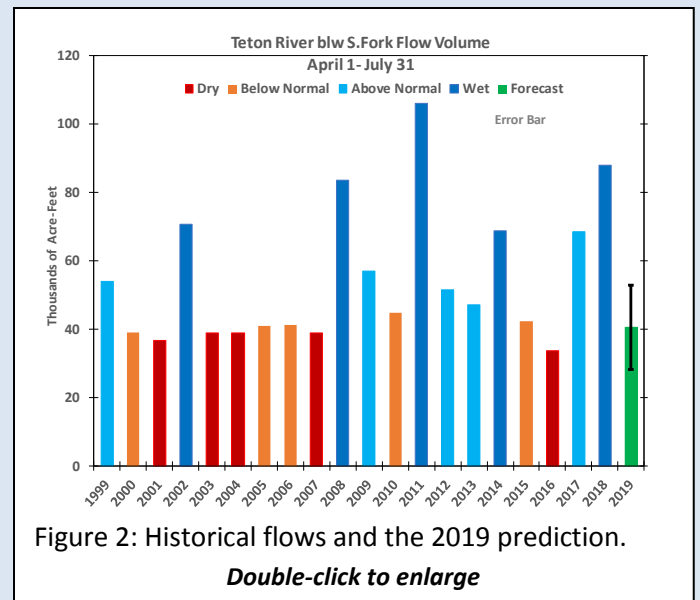
Weather Outlook

– The National Weather Service (NWS) **one-month outlook indicates normal precipitation and below normal temperatures** for Central Montana. The El Niño Southern Oscillation (ENSO) index, is a measure of whether equatorial Pacific Ocean conditions of El Niño (warm and dry for Montana) or La Niña (cold and wet) could develop and influence weather along the Rock Mountain Front. Weak El Niño conditions are forecasted for the summer meaning **El Niño will not strongly influence weather in the near-term**.

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